

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:  
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## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) <span style="float: right; font-weight: bold;">28-06-2004</span>	
Applicant's or agent's file reference <b>A03P2005P</b>	<b>FOR FURTHER ACTION</b> See paragraph 2 below
International application No. <b>PCT/SE 2004/000529</b>	International filing date (day/month/year) <b>02.04.2004</b>
Priority date (day/month/year) <b>24.04.2003</b>	
International Patent Classification (IPC) or both national classification and IPC <b>A61B 5/0452 // A61N 1/39</b>	
Applicant <b>Åström, Magnus et al</b>	

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further opinions, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-13	YES
	Claims		NO
Inventive step (IS)	Claims	1-13	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

2. Citations and explanations:

Reference is made to the following documents:

D1: WO 9739681 A1

D2: US 5271411 A

D3: US 5638823 A

D4: Bradie B., "Improved Wavelet Packet Compression of Electrocardiogram Data, II: Coding of Compressor Output and QRS Clustering", Wavelet Applications in Signal and Image Processing IV, Denver, CO, USA, 6-9 Aug. 1996, Vol. 2825, pt.2, pg. 812 - 821

D5: US 6393316 B1

D6: US 5493483 A1

D7: Koyrakh L.A. et al. "Wavelet transform based algorithms for EGM morphology discrimination for implantable ICDs", Computers in Cardiology 1999. Vol. 26, Hannover, Germany, 26-29 Sept. 1999, pg. 343 - 346.

The cited documents represent the general state of the art.

The invention defined in claims 1-13 is not disclosed by any of these documents.

The cited prior art does not give any indication that would lead a person skilled in the art to the claimed apparatus for analysing cardiac events detected in electrograms and the claimed heart stimulator. Therefore, the claimed invention is not obvious to a person skilled in the art.

Accordingly, the invention defined in claims 1-13 is novel and is considered to involve an inventive step. The invention is industrially applicable.

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Box No. VII Certain defects in the international application

The following defects in the form or content of the international application have been noted:

According to PCT Rule 6.2(b) the technical features mentioned in the claims shall preferably be followed by the reference signs relating to such features. The reference signs shall preferably be placed between parantheses.